

REMARKS

INTRODUCTION

Claims 1-33 were previously pending and under consideration.

Claims 5 and 17 are cancelled herein.

Therefore, claims 1-4, 6-16, and 18-33 are now pending and under consideration.

Claims 1-33 are rejected.

Claims 1-4, 7-16, 18, 19, 21, and 23-33 are amended herein.

No new matter is being presented, and approval and entry are respectfully requested.

REJECTIONS UNDER 35 USC § 112, SECOND PARAGRAPH

In the Office Action, at page 2, claims 1-14 and 23-33 were rejected under 35 U.S.C. § 112, second paragraph, for the reasons set forth therein. Appropriate corrections have been made. Withdrawal of the rejection is respectfully requested.

REJECTIONS UNDER 35 USC § 103

In the Office Action, at pages 2-6, claims 1-33 were rejected under 35 U.S.C. § 103 as being unpatentable over Lumelsky in view of Ding. This rejection is traversed and reconsideration is requested.

Amended claim 1, for example, recites "monitoring use of selected ones of said hardware resources by the computer to obtain historical data pertaining to the historical availability to the computer of each said monitored hardware resource", "automatically analyzing said obtained historical data to arrive at a prediction of a future level of availability of a monitored hardware resource", "providing a signal when said prediction of the future level of availability of the monitored resource fails to meet an availability threshold", and "without user intervention, responding to the signal by automatically allocating an additional hardware resource to be

manually physically added to the computer."

As mentioned above, claim 1 recites predicting a future level of availability of a monitored resource and when it fails to meet an availability threshold automatically allocating an additional hardware resource. A prediction of future resource availability causes an allocation before the availability becomes a problem. In contrast, Lumelsky discusses "additionally compensating, at a media server, for differences between true resource utilization and [a] resource envelope" (Abstract), and "the system ... provides means to compensate for differences between actual resource requirements found during the provisioning of a media service and the resource profile associated with a service unit [because] It is a possibility that the resource envelope . . . may incorrectly estimate the resource requirements needed to provision the service object" (column 7, lines 57-64). A resource envelope is a set of resource units or levels (e.g. processing, bandwidth) estimated in advance to be needed to provide a service (e.g. providing a media stream) (column 8, lines 5-8). When the resource units of the resource envelope turn out to be insufficient in a particular case, "there are techniques to, on-demand, compensate for the difference on resource allocation requirements" (column 8, lines 28-34). More specifically, "A run-time compensation module (735) computes the necessary adjustments over the resource envelope ... Resources are thus allocated in terms of application requirements and optimized to local and global cost metrics" (column 13, lines 57-64). In sum, resource adjustments are made at run-time in accordance with actual current utilization. Lumelsky does not predict future availability based on historical availability, and then trigger an allocation when the future availability exceeds a threshold. Rather, Lumelsky increases a resource unit at the time at which it becomes insufficient to provide an associated media service.

Withdrawal of the rejection is respectfully requested.

Claim 1, for example, also recites "automatically allocating additional resources to be manually physically added to the computer". As discussed in the background of the present specification, before the present invention, resources were manually added after a need for the same arose, and sometimes the added resources were retained when no longer needed (page 2, lines 4-5). Users would turn off their machine, insert more resources, and restart the machine. Some users do not understand when a new resource is necessary, and so an upgrade would be made only when it became an issue (page 2, lines 14-16). The specification

mentions that an aspect of the present invention *reduces* downtime (page 3, lines 18-20) by allocating or reserving a resource when its need is predicted. Memory, for example, is described as being added to or subtracted from a computer system. That is, the present specification discloses a resource being allocated when needed, and the resource being physically added afterwards as a separate step from the allocation. The Merriam Webster Online Dictionary indicates that to "allocate" is to "to set apart or earmark : DESIGNATE <allocate a section of the building for special research purposes>". In Lumelsky, a resource may be allocated, but there is no physical resource addition. Lumelsky has a fixed pool of resources, and an allocation draws on or returns resources to the fixed pool. The allocation itself secures the resource for a service, which is different than an allocation followed by a resource addition. For further understanding, consider the memory example in the specification. If a prediction indicates that memory will run low, the system is requested to allocate additional memory. Later, when the memory has been added as a separate step, the proper charge is made to the user (page 6, line 25, to page 7, line 1). In sum, Lumelsky's allocation itself makes a resource available, whereas the allocation of claim 1 earmarks or sets apart the needed resource (which does not make the resource available). The resource becomes available when it is later added to the computer as a separate step.

Withdrawal of the rejection is further respectfully requested.

DEPENDENT CLAIMS

The dependent claims are deemed patentable due at least to their dependence from allowable independent claims. These claims are also patentable due to their recitation of independently distinguishing features. For example, claim 7 recites "analyzing available applications as a function of at least one computer resource". This feature is not taught or suggested by the prior art. Withdrawal of the rejection of the dependent claims is respectfully requested.

CONCLUSION

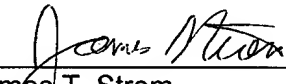
There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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